

ABSTRACT OF THE DISCLOSURE

An apparatus including a stepper motor for actuating a moveable element
5 of the apparatus. The maximum torque that can be generated at each step is a function of the voltage supplied to the motor. In some applications, however, torque greater than the nominal maximum may be required for brief periods. Under such conditions, the need for greater torque is sensed and a controller supplies a higher voltage to the motor, thereby increasing temporarily the output
10 torque. When increased torque is no longer required, the voltage is reduced to nominal. The invention is useful, for example, for extending the range of a stepper motor actuator for an intake air control valve in a fuel cell assembly.